THE PROBLEM OF WEIGHT CONTROL FOR WOMEN

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Most women think of weight control as a routine to reduce unwanted pounds in minimum time, with minimum effort. The problem is more fundamental.

Food energy is consumed and energy is expended in the processes of living and doing work. The woman who maintains her weight throughout her adult years succeeds in establishing a balance — intake and outgo are equal.

Thirty years ago, a woman of 20 was able to eat 2800 to 3000 calories every day without gaining weight.

The average young woman today can eat only about 2200 calories if she is to maintain her figure. And her mother, at 50, must reduce her intake to 1700 or 1800 calories.

Lead Sedentary Lives

The modern woman rides in a motor car, her predecessor walked. She has a dozen devices designed to limit her energy output of muscular work. So, if she is to lose weight, today's woman must lower her daily food intake to 1500 calories or less.

Women eat at the family table with vigorous husbands and children who demand high calories to satisfy energy and growth needs and who like certain characteristic foods.

Family Diets Vary

When money does not restrict choice, meat, potatoes, gravy, fruits, vegetables, cereals, breads, sweets and desserts, fats, and dairy products make up the family diet. If cost is a factor, meat, fruits, green vegetables, more expensive desserts, and dairy products are apt to be limited.

About half of the calories of these diets are derived from fats, refined cereals, and sugars, which contribute few proteins, vitamins, and minerals. However, if 3000 calories are eaten, minimum adult requirements of all of the nutrients usually are met. Of course this would not meet the needs of pregnancy and lactation.

Select Food Carefully

As intake is reduced below 3000 calories, proportionate reduction of specific nutrients occurs unless selection is made carefully. For example, calcium is difficult to provide in the American dietary. Most foods contain calcium in small amounts. But milk, bones, and egg shells are the natural storehouses for calcium. Of these, Americans use only milk.

Calcium Facts

	Calcium Gms.
1000 calories of mixed food (no milk) gives	0.2 to 0.25
2000 calories of mixed food (no milk) gives	0.4 to 0.5
3000 calories of mixed food (no milk) gives	0.6 to 0.75
1 glass (6 to 7 oz.) of whole or skim milk provides	0.2
1 quart of milk provides	1.15
An average adult woman or man requires per day	0.75 to 1.00
An average adolescent girl requires, per day, about	1.4
A pregnant or nursing mother may need, per day	1.5 to 2.0

These figures need no explanation. It may be pointed out, however, that the same mixture of foods which gives insufficient calcium at intakes of 1500 to 2000 calories also may be short on protein, vitamins, and other minerals.

Lowered caloric requirements are accepted. But there is increasing evidence that nutrients cannot be skimped.

Doctor Ohlson

From late adolescence through the middle forties, women bear sturdier children and are healthier if their diets contain generous amounts of protein, minerals, and vitamins. Good adult nutrition appears to insure against chronic ill health in later life.

Low Calorie Adequate Diets

A diet which is limited in calories but high in specific nutrients requires a definite amount of milk, protein foods, fruits, vegetables, and whole-grain cereals. Sweets and fats must be restricted. (See page 12 for 1200 and 2000 calorie diets which, though restricted in calories, are adequate in other respects.)

To maintain weight and health, the modern woman must select from foods suitable for the high caloric needs of a growing and exercising family. As her caloric needs decrease with age, her need for selection becomes progressively greater.

Glances AT NUTRITION RESEARCH

Essential to an effective application of the science of nutrition is recognition of the signs and indications of faulty nutrition. Equally important is an understanding of body needs as they are involved in maintaining health.

Riboflavin Needs of Young Women — Riboflavin studies carried out on 12 young women indicated an average daily requirement of 1 mg. or 0.5 mg. per 1000 calories. Although levels of riboflavin approximating only one-half of the indicated requirement were fed over a period of 106 days, no outward evidences of riboflavin deficiency were observed. However, several of the subjects experienced severe constipation. This was relieved when the riboflavin and thiamine intakes were raised by increasing the intake of milk and certain other foods.

—J. Nut. 32:143 (Aug.) 1946.

Vitamins from Intestinal Bacteria — Current research suggests that part of the daily vitamin needs are supplied by intestinal bacteria. Vitamin K can be derived from bacterial sources. Two rather newly appreciated factors — biotin and folic acid — also can be produced by microorganisms. Similarly, niacin, riboflavin, pyridoxine, and thiamine also are synthesized within the intestine.

Although the contribution of intestinal bacteria is important, it should be relied on as a source of nutriment only to a limited extent. The nature and activity of such organisms are influenced by quality of diet. For example, some carbohydrates are effective stimulators of riboflavin production. Lactose and milk powder influence the production of niacin and folic acid. Butterfat has the same effect, but corn oil does not. Protein also is involved inasmuch as the feeding of the amino acid tryptophane stimulates the production of niacin by intestinal bacteria.

—J. Am. Diet. Assn. 22:959 (Nov.) 1946.

Baldness and Graying in Malnourished Children — Striking depigmentation of the hair was observed in Costa Rican infants and young children suffering from chronic dietary deficiencies. The hair became dry and was loosened to such an extent that a handful could be removed without causing pain. With improvement in diet, repigmentation and growth of the hair occurred.

Since dietary records revealed that the children existed chiefly on bananas and molasses, an effort was made to improve the nutrient intake by dietary correction and by administering vitamins of the B-complex. While the hospital diet induced some improvement, the feeding of biotin accelerated pigmentation and hair growth.

—J. Am. Med. Assn. 132:570 (Nov.) 1946.

Tooth Decay and Diet — In an effort to devise an experimental diet which could duplicate the previously established function of mineralized milk in preventing tooth decay entirely in rats, a number of carbohydrates were tested. While dextrin and starch permitted only a low incidence and extent of decay, other carbohydrates were ineffective when fed as part of a low-fat ration.

A protective action was noted when lard was added to a ration which previously had given no protection. Extra casein also markedly reduced the incidence of decay on a sucrose-lard diet. None of the many dietary variations applied, however, gave the complete protection afforded by a diet of whole liquid milk.

—J. Nut. 32:405 (Oct.) 1946.

Author of this issue's lead article, Dr. Margaret A. Ohlson is well-known for the practical nature of her nutrition research. At present she is head of the Department of Foods and Nutrition at Michigan State College, East Lansing. In addition, she finds time to be active in numerous honorary and professional organizations. Dr. Ohlson received her advanced degrees at the University of Iowa.

Problems of human nutrition are among the fields of research provided for under Public Law 733, the Flannagan-Hope Marketing Research Act. In general, the purpose of the bill is to provide for further research into basic laws and principles relating to agriculture and to improve and facilitate the marketing and distribution of agricultural products.

The world will have to produce almost twice as much food as it now does if world food needs for 1960 are to be met. High on the list are 21 per cent more cereals, 46 per cent more meat, 100 per cent more milk, and 163 per cent more fruits and vegetables.

NUTRITION CENTER AIDS COMMUNITY

By Elizabeth K. Caso, Instructor in Nutrition, Department of Nutrition, Harvard School of Public Health, Boston

Formerly, the major emphasis of a public health service was in the field of sanitation and the control of communicable disease. But in recent years the importance of sound nutritional practices in protecting community health has been recognized increasingly.

A community nutrition service, as a part of the public health program, can reach the inhabitants through various channels, helping to improve the nutritional status of its citizens. Newton, Massachusetts, a city of 70,000, first employed a full-time nutritionist in 1933.

This service has grown until now there are two workers on the staff. It has been named officially the Nutrition Center. It is financed jointly by the City Health Department, Community Chest, and the local chapter of the American Red Cross.

Nutrition Committee

A nutrition Committee has the responsibility of guiding and directing the work of the Nutrition Center. Representatives from local medical, dental, health, welfare, and educational groups are on the committee, as well as several lay men and women. These representatives help to keep their groups informed and interested in the work of the nutritionist.

In addition, with their variety of interests, they keep the activities of the Center well balanced.

Integration of nutrition in the curriculum of the public schools is one of the major tasks of the Nutrition Center. In addition, pregnant and lactating women are taught the importance of nutrition by visiting nurses. These nurses receive instruction from the consulting nutritionist or the obstetrician. A small, attractive leaflet on prenatal diet, approved by the City Medical Society, is prepared by the Nutrition Center and circulated by the obstetricians.

Parents Contacted

Many preschool children are reached directly by the nutritionist, who sees the parents when they attend Well-Child Conferences. Group meetings for parents to discuss "Children's Eating Habits" have been popular since so many of the nutrition questions in a middle-class community center around this problem. Those with a limited income frequently have difficulty in planning their food budget to include the protective foods. The nutritionist, working through nurses and social service workers, can relay a great deal of helpful information on food budgeting and economical marketing tips to the homemakers of Newton.

The press and radio, exhibits in stores and libraries, and attractively prepared, simply-worded leaflets all are used to extend this nutrition information.

The Department of Nutrition, Harvard School of Public Health, is giving supervisory assistance to the Center. In return, Newton makes it possible for students to use it for field observation and training. Students interested in the administration and scope of the nutrition service or those who are nutritionists, interested in actual techniques of the program, are receiving practical experience here.

RECIPE FOR NUTRITION ED-U-CAKE

By Elizabeth McGuire, M. Ed., M. S. P. H., Health Education Consultant, Texas State Department of Health

What can we do to promote better integration of nutrition in the schools and the community?

This question confronted members of the Texas State Nutrition Council in the spring of 1946. We all agreed that every teacher, family, and community worker has a definite responsibility for disseminating and interpreting authentic nutrition information. This, we felt, must be accomplished through meaningful experiences associated with everyday living.

On this thesis the sub-committee on Nutrition in Schools went to work to develop and compile nutrition materials. These were designed for use in state-wide Health, Education, and Community Workshops.

Collect Bibliography

First, a bibliography was collected. It included reports, bulletins, and source books on nutrition from all parts of the country. Five packets of the reports and bulletins selected were assembled and made available to college and community workshops which wished to include a section on nutrition. This was further supplemented by offering slides and the services of Council members as consultants.

Second, an outline guide was prepared, showing ways to include nutrition in the workshop plan. Included were such topics as the following:

Outline Guide

(1) What is good nutrition? (2) What happens if there is not good nutrition? (3) How can nutrition become an integral part of classroom teaching in the total curriculum? (4) What should be the relationship of classroom teaching to the lunchroom program? (5) How can knowledge of good nutrition be integrated in the home, school, and community? (6) How can nutrition needs and problems in the schools be assayed? (7) How can the program be evaluated? The materials proved so successful that the Council now has made them available to local groups interested in nutrition. The packets are loaned to qualified community workers for the specified length of time that a local group wishes to use them and copies of the outline guide and bibliography are furnished.

To date, the project has proved very successful. The five packets have journeyed throughout the state. One even traveled as far as a North Carolina workshop.

In summarizing our Nutrition Council experiences, we recommend to all communities the use of our basic recipe for:

Texas Nutrition Ed-U-Cake

Step I: Make a rich mixture by creaming the Bibliography until the basic elements of nutrition education are firmly in mind. Then sift the suggested experiences and procedures in

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DID YOU KNOW

—that a sandwich machine has been developed? It can make 60 sandwiches a minute.

—that 4,000 quarts of ice cream are consumed every minute in this nation?

—that a cake can be baked in 29 seconds, a complete meal prepared in less than a minute, by means of a new electronic development?

—that envelopes have been developed with mint-flavored adhesive flaps?

—that each week two milk planes fly from Springfield, Mass., to Westover Field, Bermuda, to deliver 600 gallons of fresh milk to army personnel?

—that a bread wrapper zipper, similar to ones found on chewing gum, has been developed? After removing slices of bread, the top is replaced, forcing out the air and keeping the bread fresh longer.

—that a laminated wrapper of cellophane, paper, and a special coating allows cheese to cure in the wrapper? No rind is developed and so there is no waste.

—that an egg shell is about 98 per cent calcium carbonate?

THINGS YOU'LL LIKE TO READ

Food and Nutrition (California State Department of Education. Sacramento. 1945.) is a 160-page booklet containing basic nutrition information for public school teachers.

An old friend in a new guise, the **National Food Guide** (U. S. Department of Agriculture. Washington D. C. AIS-53. 1946.) is a leaflet containing the newly revised Basic Seven Chart. Also available in poster form.

Lucy H. Gillett, a pioneer in the nutrition and public health field, is the author of a new book, **Nutrition In Public Health** (Philadelphia: W. B. Saunders Company. 1946. $2.75.)

RECIPE FOR NUTRITION ED-U-CAKE

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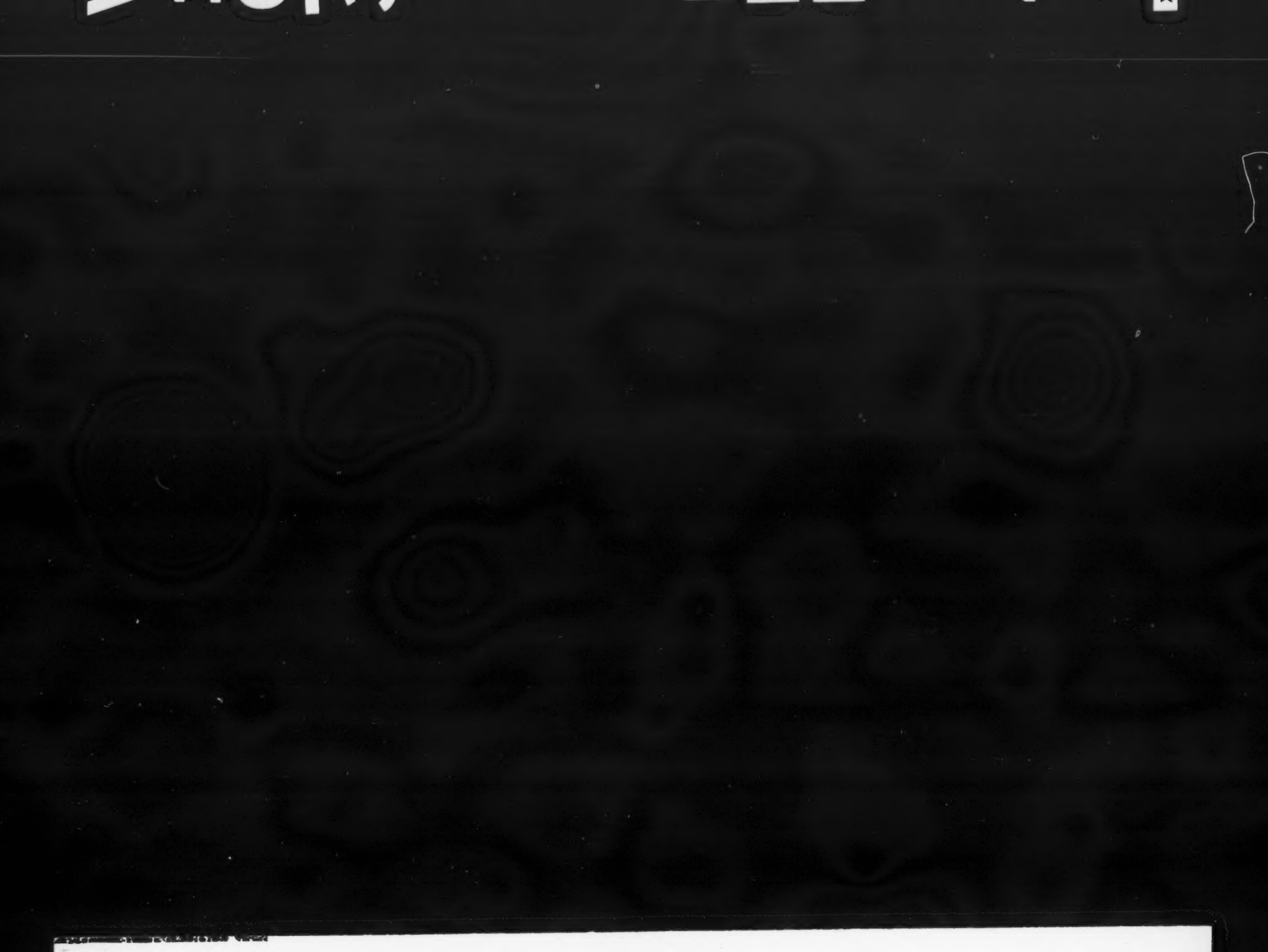
the outline most adaptable in your situation, being certain to use some materials from each area.

Step II: Blend this mixture with your school, home, and community education needs, and add the cooperation of students, parents, and community workers.

Step III: Place the above mixture in a well-oiled community mixing bowl. Meanwhile, prepare a topping of a functional in-service training program for teachers and community workers.

Step IV: For best results, divide into equal parts and pour into pans oiled with rich experiences and information. Bake in moderate ovens. Serve regularly in the home, school, and community. The product will be a delectable community nutrition program.

ADEQUATE DIETS FOR ADULTS—AT DIFFERENT CALORIC LEVELS

	DIET NUMBER 1 — 1200 Calories	DIET NUMBER 2 — 2000 Calories
Breakfast	Orange or grapefruit juice, 3-4 oz. Oatmeal, small bowl or Whole wheat toast, 1 slice Half skimmed milk, 6 oz. Coffee or tea if desired	1 serving of fresh fruit 1 bowl oatmeal with 2 tsp. sugar, 6 oz. whole milk or 2 slices whole wheat toast, 2 squares butter and 6 oz. half skimmed milk, coffee or tea with sugar and 1 Tbsp. cream if desired
Lunch	Lean meat, fish, egg, or cottage cheese, small serving Whole wheat bread, 1 slice or Cooked starch as rice, 1 serving or 20 per cent vegetable, 1 serving 10 per cent vegetable, 1 serving 5 per cent vegetable, 1 serving 15 per cent fruit without sugar, small serving Half skimmed milk, 7 ounces Coffee or tea if desired	Lean meat, fish, cheese, eggs, or meat alternate, 1 serving 1 starchy food chosen from luncheon of Diet 1 2 Tbsp. butter or cooking fat ½ Tbsp. salad dressing 1 serving 5 or 10 per cent vegetable Fruit (may be sweetened), fruit pie or simple pudding 7 ounces whole milk Coffee or tea if desired, small amounts sugar and cream
Dinner	Lean meat, fish, or shell fish One serving chosen from the three choices of starchy foods listed for lunch 10 per cent vegetable, 1 serving 5 per cent vegetable, 1 serving unsweetened cup custard, 4 oz. or 10 per cent fruit, unsweetened, 1 serving Half skimmed milk, 7 ounces Coffee or tea if desired	Essentially the dinner pattern of Diet 1 except The portion of protein food may be larger Potatoes may be scalloped or mashed 1 Tbsp. salad dressing and 2 squares of butter may be added Simple puddings or fruit pie may be chosen for dessert Small amounts of sugar and cream may be allowed with coffee or tea if desired

Higher calorie diets contain the same foods as those shown above. The additional calories are furnished by more concentrated foods and/or larger servings of any of the foods.